

Grades: 6-8 **Course Name:** Reduce First: Food Challenge
Unit *Reducing Food Waste*

Overview and Goal of the Lesson:

This is a three-part lesson. Teacher can choose to complete all, or a portion of the lessons. The first part is to teach students about some of the laws surrounding food waste in the nation. Students will then take that knowledge and write persuasive letters to local restaurants. The second part educates students on the benefits of healthy food. Students will read about nutrients and complete posters as a part of a school wide “healthy eating” campaign. The last part is to get students to take action during the week of October 21-28! They will break into cohorts to lead a competition around food recovery. The grade level to organize the most boxes to donate wins.

Essential Question(s):

How has the Good Samaritan Food Donation Act changed the trajectory of food waste and donation over the years?
How is food waste contributing to the demise of the environment?
How can students convince their classmates to eat the healthy food on their plates?
How can donating the unwanted food in the cafeteria help our environment?

NGSS Emphasized and Addressed in this Lesson Sequence:

Performance Expectations	Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Students will be able to obtain and combine information about ways individual communities use science ideas to protect the Earth’s resources and environment. (5-ESS3-1)	Obtaining, Evaluating, and Communicating Information Obtaining, evaluating, and communicating information in 3–5 builds on K–2 experiences and progresses to evaluating the merit and accuracy of ideas and methods. <ul style="list-style-type: none"> Obtain and combine information from books and/or other reliable 	ESS3.C: Human Impacts on Earth Systems <ul style="list-style-type: none"> Human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space. But individuals and communities are doing things 	Systems and System Models <ul style="list-style-type: none"> A system can be described in terms of its components and their interactions. <hr/> <hr/> Connections to Nature of Science

	media to explain phenomena or solutions to a design problem.	to help protect Earth's resources and environments.	Science Addresses Questions About the Natural and Material World. <ul style="list-style-type: none"> Science findings are limited to questions that can be answered with empirical evidence.
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Common Core Standards:

ELA/Literacy -

[CCSS.ELA-LITERACY.RI.6.1](#)

Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

[CCSS.ELA-LITERACY.RI.6.3](#)

Analyze in detail how a key individual, event, or idea is introduced, illustrated, and elaborated in a text (e.g., through examples or anecdotes).

[CCSS.ELA-LITERACY.RI.6.7](#)

Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.

[CCSS.ELA-LITERACY.RI.6.8](#)

Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not.

Write arguments to support claims with clear reasons and relevant evidence.

[CCSS.ELA-LITERACY.W.6.1.A](#)

Introduce claim(s) and organize the reasons and evidence clearly.

[CCSS.ELA-LITERACY.W.6.1.B](#)

Support claim(s) with clear reasons and relevant evidence, using credible sources and demonstrating an understanding of the topic or text.

[CCSS.ELA-LITERACY.W.6.2](#)

Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

[CCSS.ELA-LITERACY.W.6.2.A](#)

Introduce a topic; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.

[CCSS.ELA-LITERACY.W.6.2.B](#)

Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples.

PART I

Materials

Item	Quantity	Purpose
Internet	Enough for students in pairs	Students will be able to research the different laws in place to protect restaurant food donation.
Computers	Enough for students in pairs	Students will be able to type letters to send to restaurants.
Anchor chart paper	15 sheets	Students will be able to participate in a silent chalk talk.
Markers	At least one for each student	Students will be able to participate in a silent chalk talk.

5E Lesson Sequence

WEEK 1				
5E Model Stage	Duration	Teacher and Student Actions		Notes
Engage		What Teacher	Set up gallery walk of images and facts around classroom on anchor chart	

	30 minutes	her Does	<p>paper. Each image/ fact should have its own sheet so students can have a silent chalk talk. Roughly two students per image. Time students so that they spend 2 minutes at each chart.</p> <p>Teacher monitors and circulates as students observe, jot and respond to one another.</p>	<p>https://pingree.house.gov/sites/pingree.house.gov/files/wysiwyg_uploaded/Food%20Waste%20Infographic%20shareable.jpg (US Food Waste infographic)</p> <p>https://s-media-cache-ak0.pinimg.com/originals/36/9e/a6/369ea6da3059d71480be680c9eb34b94.png (Tips to reduce food waste)</p> <p>https://thumbnails-visually.netdna-ssl.com/rotten--global-annual-food-waste_5182d807d7c29_w1500.jpg (Global Annual Food Waste chart)</p> <p>http://www.bayareagreentours.org/wordpress/wordpress/wp-content/uploads/2017/07/FOOD-WASTE-GENERAL-PIC.png (What we Waste the Most chart)</p> <p>http://farm4.static.flickr.com/3137/3080674711_9c8592b563_z.jpg (homeless man digging through trash)</p> <p>http://mediad.publicbroadcasting.net/p/wfae/files/201307/food_waste.jpg (racking food off a plate into the trash)</p> <p>http://grisanik.com/static/images/68-food-waste-1.jpg (landfill of food waste)</p> <p>https://openlab.citytech.cuny.edu/mcarrillo-eportfolio/files/2016/02/food-waste.jpg (How schools can reduce food waste)</p> <p>http://www.feeding5kdublin.org/wp-content/uploads/2012/10/Food-Waste-Pyramid.jpg (The Food Waste pyramid)</p> <p>https://assets.fastcompany.com/image/upload/w_596,c_limit,q_auto:best,f_auto,fl_lossy/fc/3051145-inline-i-1-how-denmark-turned-around-its-food-waste-copy.jpg (CO2)</p> <p>http://www.trbimg.com/img-5795ecdd/turbine/hc-food-waste-efforts-20160725 (Campaign to reduce waste)</p>
		What Students Do	<p>Students complete an “I think, I see, I wonder” on the images on each anchor chart paper. Students should write their initial thoughts to the image. As they continue to circulate, they should comment and respond to their classmates’ comments using the following guide:</p> <p><i>I agree with...</i> <i>I would like to add...</i> <i>I disagree...</i> <i>I can see both sides...</i></p> <p><i>*- I really like this</i> <i>? – I am confused</i> <i>→ - I made a comment that extends this comment</i> <i>! – I agree</i></p>	

				https://www.fix.com/assets/content/15725/whos-wasting-the-most-food.png (Who's producing the most waste?) http://earth911.com/wp-content/uploads/2016/12/Types-of-Food-Waste.jpg (Food Waste by category) https://www.thesun.co.uk/wp-content/uploads/2016/04/1833787.main_image.jpg?strip=all (Food Waste percentages) http://www.harecycling.co.uk/wp-content/uploads/2014/12/Food_waste.png (The truth about food waste)
5E Model Stage	Duration	Teacher and Student Actions		Notes
Explore	90 minutes	What Teacher Does	<p>Teacher models how to pull up a website and extract key information about the Good Samaritan Food Donation Act</p> <p>http://www.foodtodonate.com/Fdcmain/LegalLiabilities.aspx (Act)</p> <p>Teacher breaks students into pairs and assigns websites for groups of students to research. Teacher circulates to help students as they synthesize the information from the websites.</p>	<p>https://www.usatoday.com/story/news/2015/09/16/usda-epa-want--cut-food-waste--half--2030/32513053/ (Reduce Food Waste by 2030)</p> <p>https://www.usatoday.com/story/news/nation-now/2015/11/23/despite-law-restaurants-still-dont-donate-food/76286144/ (Why Restaurants aren't Donating)</p> <p>http://www.huffingtonpost.com/entry/restaurants-that-dont-donate-because-of-liability-are-just-making-excuses-experts-say_us_577d6f92e4b0344d514dd20f (Why Restaurants Need to Donate)</p> <p>http://www.feedingamerica.org/ways-to-give/give-food/become-a-product-partner/protecting-our-food-partners.html (The Donation Act)</p>

		What Students Do	<p>Students explore websites and jot down findings on the capture sheet. *Students must visit at least 5 websites.</p> <p>Capture sheet has columns: Website/ Facts about Food Waste/ Method to Reduce Food Waste</p>	<p>https://www.usda.gov/oce/foodwaste/resources/donations.htm (Food Waste Vocab and Challenge)</p> <p>https://www.epa.gov/recycle/donating-food (Where to Donate Food)</p> <p>https://www.capitalareafoodbank.org/donate-food/ (Where to Donate Food)</p> <p>https://www.jconnect.org/Portals/0/JConnectFiles/Donation%20List%20New/Food%20Donation%20Sites%20-%20Metro%20DC.pdf (Food Donation Sites)</p>
5E Model Stage	Duration	Teacher and Student Actions		Notes
Explanation	60 minutes	What Teacher Does	<p>Teacher provides graphic organizer and rubric for students to begin drafting letters to local restaurants.</p> <p>Letters must include:</p> <ul style="list-style-type: none"> - Definition of food waste - At least 3 statistics on food waste (___ % of food is wasted) Stats can come from gallery walk infographs and/ or research - Description of Food Donation Act - Why restaurants should donate 	<p>https://prc.parcconline.org/system/files/Grade6-11-ELA-LiteracyScoringRubric-July2015_0.pdf (PARCC Writing Rubric)</p>

			<ul style="list-style-type: none"> - Who donations benefit (environment, food banks, homeless, etc.) - How restaurants are protected 	
		What Students Do	Students write heartfelt letters to convince local restaurants to donate food instead of throwing it away.	
5E Model Stage	Duration	Teacher and Student Actions		Notes
Elaborate	30 minutes	What Teacher Does	Teacher passes out peer review check list and norms process.	
		What Students Do	Students read one another's letters against the rubric. Students check to make sure their partners' letters include all of the necessary components. Students provide feedback to one another.	
5E Model Stage	Duration	Teacher and Student Actions		Notes
Evaluate	60 minutes	What Teacher Does	Teacher passes out computers and sets typing norms.	

		What Students Do	Students type their letters so they can be printed, signed and delivered to local businesses.	
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PART II

Materials

Item	Quantity	Purpose
Internet	Enough for students in pairs	Play the healthy eating songs for students.
Anchor chart paper	15 sheets	Students will be able to create “Healthy Eating” campaign posters.
Markers	At least one for each student	Students will be able to make posters colorful and bright.

5E Lesson Sequence

Week 2				
5E Model Stage	Duration	Teacher and Student Actions		Notes
Engage	15 minutes	What Teacher Does	<p>Teacher plays first video for students and instructs them to complete a turn and talk about the key take aways.</p> <p><i>What is the central idea of the video?</i></p> <p><i>What example of healthy foods does the video share?</i></p>	https://www.youtube.com/watch?v=sEhhPIR4IQI (Eat healthy rap)

			<p><i>What examples of unhealthy food does the video share?</i></p> <p><i>What do the videos have in common?</i></p>	https://www.youtube.com/watch?v=eV21p_sepgU (Eat healthy rap 2)
		What Students Do	<p>Students jot down notes during the video.</p> <p>Examples of healthy foods</p> <p>Benefits of healthy foods</p> <p>Example of unhealthy foods</p> <p>Downfalls of unhealthy foods</p> <p>What are some ways you can be healthy?</p>	
5E Model Stage	Duration	Teacher and Student Actions		Notes
Explore	30 minutes	What Teacher Does	Teacher breaks students up into groups of 3-4 based on Lexile levels. Teachers passes out articles for jig saw read.	https://www.readworks.org/article/Students-Get-Healthy!/effe0d92-f480-4e06-a694-d64768fa55e5#!articleTab:content/ (Lexile 1060) https://www.readworks.org/article/Healthy-Eating-Healthy-Planet/4970c2a6-e688-4107-97f2-3854273e66b9#!articleTab:content/ (Lexile 1050) https://www.readworks.org/article/Staying-Fit-and-Healthy/f88277cd-dbe8-46f8-8e33-f6f953d49a58#!articleTab:content/ (Lexile 900)
		What Students Do	Students read grade level articles in their groups. Each group member should have a role: reader, writer, time keeper, word researcher	

				https://www.readworks.org/article/Healthy-Plates/46a8a159-6028-4bfc-a54f-6d7d7f000a37#!articleTab:content/ (Lexile 870) https://www.readworks.org/article/Food-and-Eating/cea11c82-b83a-4fcf-8815-3529226bded6#!articleTab:content/ (Lexile 650)
5E Model Stage	Duration	Teacher and Student Actions		Notes
Explain	60 minutes	What Teacher Does	Teacher circulates and monitors as students make posters.	
		What Students Do	Students make posters to hand around school advertising healthy eating. Poster must include: Examples of healthy food Benefits of eating healthy food Examples of unhealthy food Downfalls of eating unhealthy food School cafeteria options	
5E Model Stage	Duration	Teacher and Student Actions		Notes
Elaborate	30 minutes	What Teacher Does	Teacher passes out “Glows and Grows” sheet for watching presentations.	
		What Students Do	Students present their findings on the posters to the class. Audience watches and records “Glows” or great things about the poster and “Grows” areas they can improve.	

5E Model Stage	Duration	Teacher and Student Actions		Notes
Evaluate	60 minutes	What Teacher Does	Teacher gets consent of school principal to hang up posters.	
		What Students Do	Students hang up “Eat healthy” campaign posters ALL around school, especially in cafeteria.	

PART III

Materials

Item	Quantity	Purpose
Boxes	3-5 per grade level	Organize food waste into bins that can be donated.

5E Lesson Sequence

WEEK 3				
5E Model Stage	Duration	Teacher and Student Actions		Notes
Engage	10 minutes	What Teacher Does	Teacher plays video and asks key questions: <i>Why is it phenomenal what these students have done?</i> <i>How did these students help other kids?</i> <i>Why is it important to donate food?</i> <i>How can we adopt this principle to our school?</i>	https://www.youtube.com/watch?v=-ZGm9ttSYjSI (Students organize food drive)

		What Students Do	Students jot down notes during the video and answer the key questions above.	
5E Model Stage	Duration	Teacher and Student Actions		Notes
Explore	60 minutes	What Teacher Does	Teacher gives students materials to make competition posters.	https://dcfoodrecovery.wordpress.com/ (DC Food Recovery)
		What Students Do	Students make information signs to go with the healthy eating signs they made the previous week. Signs should advertise the DC Food Recovery Working Group's 'Ugly Pumpkin Block Party'	
5E Model Stage	Duration	Teacher and Student Actions		Notes
Explain	30 minutes	What Teacher Does	Teacher discusses with principal what feasible prize the school can award the winning grade. Examples: Extra recess, huge group photo, dress down day, etc.	
		What Students Do	Students create signs that communicate: The grade level to recover the most food wins the competition.	
5E Model Stage	Duration	Teacher and Student Actions		Notes
Elaborate	30 minutes	What Teacher Does	Teacher asks that competition be communicated over daily announcements.	https://dcfoodrecovery.wordpress.com/
		What Students Do	Students start a sign up list or petition to create buzz. Whichever group that gets the most signatures pledging to recover food wins!	
5E Model Stage	Duration	Teacher and Student Actions		Notes

Evaluate	60 minutes	What Teacher Does	Teacher helps count recovered food products and coordinates with local banks.	https://dcfoodrecovery.wordpress.com/
		What Students Do	Students help count amount of food recovered.	